Question 1: Financial markets help to efficiently direct the flow of savings and investment in the economy in ways that facilitate the accumulation of capital and the production of goods and services. The combination of well-developed financial markets and institutions, as well as a diverse array of financial products and instruments, suits the needs of borrowers and lenders and therefore the overall economy.

What are financial markets and institutions?

Financial markets (such as those that trade stocks or bonds), instruments (from bank CDs to futures and derivatives), and institutions (from banks to insurance companies to mutual funds and pension funds) provide opportunities for investors to specialize in particular markets or services, diversify risks, or both. As noted by Demirgüç-Kunt and Levine, together financial markets and financial institutions contribute to economic growth; the relative mix of the two does not appear to be an important factor in growth.

Large financial markets with lots of trading activity provide more liquidity for market participants than thinner markets with few available securities and participants and thus limited trading opportunities. The U.S. financial system is generally considered to be the most well developed in the world. Daily transactions in the financial markets—both the money (short term, a year or less) and capital (over a year) markets—are huge. Many financial assets are liquid; some may have secondary markets to facilitate the transfer of existing financial assets at a low cost

Question 2: The capital market, as it is known, is that segment of the financial market that deals with the effective channeling of medium to long-term funds from the surplus to the deficit unit. The process of transfer of funds is done through instruments, which are documents (or certificates), showing evidence of investments. The instruments traded (media of exchange) in the capital market are:

1. Debt Instruments

A debt instrument is used by either companies or governments to generate funds for capital-intensive projects. It can obtained either through the primary or secondary market. The relationship in this form of instrument ownership is that of a borrower – creditor and thus, does not necessarily imply ownership in the business of the borrower. The contract is for a specific duration and interest is paid at specified periods as stated in the trust deed* (contract agreement). The principal sum invested, is therefore repaid at the expiration of the contract period with interest either paid quarterly, semi-annually or annually. The interest stated in the trust deed may be either fixed or flexible. The tenure of this category ranges from 3 to 25 years. Investment in this instrument is, most times, risk-free and therefore yields lower returns when compared to other instruments traded in the capital market. Investors in this category get top priority in the event of liquidation of a company.

When the instrument is issued by:

- The Federal Government, it is called a Sovereign Bond;
- A state government it is called a State Bond;
- A local government, it is called a Municipal Bond; and
- A corporate body (Company), it is called a Debenture, Industrial Loan or Corporate Bond

2. Equities (also called Common Stock)

This instrument is issued by companies only and can also be obtained either in the primary market or the secondary market. Investment in this form of business translates to ownership of the business as the contract stands in perpetuity unless sold to another investor in the secondary market. The investor therefore possesses certain rights and privileges (such as to vote and hold position) in the company. Whereas the investor in debts may be entitled to interest which must be paid, the equity holder receives dividends which may or may not be declared.

The risk factor in this instrument is high and thus yields a higher return (when successful). Holders of this instrument however rank bottom on the scale of preference in the event of liquidation of a company as they are considered owners of the company.

3. Preference Shares

This instrument is issued by corporate bodies and the investors rank second (after bond holders) on the scale of preference when a company goes under. The instrument possesses the characteristics of equity in the sense that when the authorised share capital and paid up capital are being calculated, they are added to equity capital to arrive at the total. Preference shares can also be treated as a debt instrument as they do not confer voting rights on its holders and have a dividend payment that is structured like interest (coupon) paid for bonds issues.

Preference shares may be:

- Irredeemable, convertible: in this case, upon maturity of the instrument, the principal sum being returned to the investor is converted to equities even though dividends (interest) had earlier been paid.

- Irredeemable, non-convertible: here, the holder can only sell his holding in the secondary market as the contract will always be rolled over upon maturity. The instrument will also not be converted to equities.

- Redeemable: here the principal sum is repaid at the end of a specified period. In this case it is treated strictly as a debt instrument.

Note: interest may be cumulative, flexible or fixed depending on the agreement in the Trust Deed.

4. Derivatives

These are instruments that derive from other securities, which are referred to as underlying assets (as the derivative is derived from them). The price, riskiness and function of the derivative depend on the underlying assets since whatever affects the underlying asset must affect the derivative. The derivative might be an asset, index or even situation. Derivatives are mostly common in developed economies.

Some examples of derivatives are:

- Mortgage-Backed Securities (MBS)
- Asset-Backed Securities (ABS)
- Futures
- Options
- Swaps
- Rights
- Exchange Traded Funds or commodities

Of all the above stated derivatives, the common one in Nigeria is Rights where by the holder of an existing security gets the opportunity to acquire additional quantity to his holding in an allocated ratio.

*Note: a Trust Deed is a document that states the terms of a contract. It is held in trust by the Trustee.

Question 3: Value At Risk (VAR)

Value-at-risk is a statistical measure of the riskiness of financial entities or portfolios of assets.

It is defined as the maximum dollar amount expected to be lost over a given time horizon, at a pre-defined confidence level. For example, if the 95% one-

month VAR is $1 million, there is 95% confidence that over the next month the portfolio will not lose more than $1 million.

VAR can be calculated using different techniques. Under the parametric method, also known as variance-covariance method, VAR is calculated as a function of mean and variance of the return's series, assuming normal distribution. With the historical method, VAR is determined by taking the returns belonging to the lowest quintile of the series (identified by the confidence level) and observing the highest of those returns. The **Monte Carlo** method simulates large numbers of scenarios for the portfolio and determines VAR by observing the distribution of the resulting paths.

Despite being widely used, VAR suffers from a number of drawbacks. Firstly, while quantifying the potential loss within that level, it gives no indication of the size of the loss associated with the tail of the probability distribution out of the confidence level. Secondly, it is not additive, so VAR figures of components of a portfolio do not add to the VAR of the overall portfolio, because this measure does not take correlations into account and a simple addition could lead to double counting. Lastly, different calculation methods give different results.

Expected shortfall, an alternative risk measure, aims at mitigating some of VAR's flaws.

Question 4: Why Do the Risks for Banks Matter?

Due to the large size of some banks, overexposure to risk can cause bank failure and impact millions of people. By understanding the risks posed to banks, governments can set better regulations to encourage prudent management and decision-making.

The ability of a bank to manage risk also affects investors' decisions. Even if a bank can generate large revenues, lack of risk management can lower profits due to losses on loans. Value investors are more likely to invest in a bank that is able to provide profits and is not at an excessive risk of losing money.

Summary

- The major risks faced by banks include: **credit, operational, market, and liquidity risks**.
- Prudent risk management can help banks improve profits as they sustain fewer losses on loans and investments.
- Ways to decrease risks include diversifying assets, using prudent practices when underwriting, and improving operating systems.

Credit Risk

Credit risk is the biggest risk for banks. It occurs when borrowers or counterparties fail to meet contractual obligations. An example is when borrowers default on a principal or interest payment of a loan. Defaults can occur on mortgages, credit cards, and fixed income securities. Failure to meet obligational contracts can also occur in areas such as derivatives and guarantees provided.

While banks cannot be fully protected from credit risk due to the nature of their business model, they can lower their exposure in several ways. Since deterioration in an industry or issuer is often unpredictable, banks lower their exposure through diversification.

By doing so, during a credit downturn, banks are less likely to be overexposed to a category with large losses. To lower their risk exposure, they can loan money to people with good credit histories, transact with high-quality counterparties, or own collateral to back up the loans.

Operational Risk

Operational risk is the risk of loss due to errors, interruptions, or damages caused by people, systems, or processes. The operational type of risk is low for simple business operations such as retail banking and asset management, and higher for operations such as sales and trading. Losses that occur due to human error include internal fraud or mistakes made during transactions. An example is when a teller accidentally gives an extra $50 bill to a customer.

On a larger scale, fraud can occur through breaching a bank's cybersecurity. It allows hackers to steal customer information and money from the bank, and blackmail the institutions for additional money. In such a situation, banks lose capital and trust from customers. Damage to the bank's reputation can make it more difficult to attract deposits or business in the future.

Market Risk

Market risk mostly occurs from a bank's activities in capital markets. It is due to the unpredictability of equity markets, commodity prices, interest rates, and credit spreads. Banks are more exposed if they are heavily involved in investing in capital markets or sales and trading.

Commodity prices also play a role because a bank may be invested in companies that produce commodities. As the value of the commodity changes, so does the value of the company and the value of the investment. Changes in commodity prices are caused by supply and demand shifts that are often hard to predict. So, to decrease market risk, diversification of investments is important. Other ways banks reduce their

investment include hedging their investments with other, inversely related investments.

Liquidity Risk

Liquidity risk refers to the ability of a bank to access cash to meet funding obligations. Obligations include allowing customers to take out their deposits. The inability to provide cash in a timely manner to customers can result in a snowball effect. If a bank delays providing cash for a few of their customer for a day, other depositors may rush to take out their deposits as they lose confidence in the bank. This further lowers the bank's ability to provide funds and leads to a bank run.

Reasons that banks face liquidity problems include over-reliance on short-term sources of funds, having a balance sheet concentrated in illiquid assets, and loss of confidence in the bank on the part of customers. Mismanagement of asset-liability duration can also cause funding difficulties. This occurs when a bank has many short-term liabilities and not enough short-term assets.

Short-term liabilities are customer deposits or short-term guaranteed investment contracts (GICs) that the bank needs to pay out to customers. If all or most of a bank's assets are tied up in long-term loans or investments, the bank may face a mismatch in asset-liability duration.

Regulations exist to lessen liquidity problems. They include a requirement for banks to hold enough liquid assets to survive for a period of time even without the inflow of outside funds.